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AUTHOR Gess-Newsome, Julie, Ed.; Lederman, Norman G., Ed.
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ABSTRACT

This book presents both historic and current conceptions and practical implications of pedagogical content knowledge (PCK). The content is divided into four sections: (1) introduction; (2) literature; (3) emerging lines of research in science teacher education; and (4) impacts of PCK on the development of science teacher education programs. Chapters include: (1) "Pedagogical Content Knowledge: An Introduction and Orientation" (Julie Gess-Newsome); (2) "The Complex Nature and Sources of Teachers' Pedagogical Knowledge" (Greta Morine-Dershimer and Todd Kent); (3) "Secondary Teachers' Knowledge and Beliefs about Subject Matter and Their Impact on Instruction" (Julie Gess-Newsome); (4) "Nature: Sources and Development of Pedagogical Content Knowledge for Science Teaching" (Shirley Magnusson, Joseph Krajcik, and Hilda Borko); (5) "Domains of Teacher Knowledge" (William S. Carlsen); (6) "Assessment and Measurement of Pedagogical Content Knowledge" (Juliet A. Baxter and Norman G. Lederman); (7) "Changing Our Teaching: The Role of Pedagogical Content Knowledge in Elementary Science" (Deborah C. Smith); (8) "Reconceptualizing Secondary Science Teacher Education" (Norman G. Lederman and Julie Gess-Newsome); (9) "Pedagogical Content Knowledge and Co-Participation in Science Classrooms" (Kenneth Tobin and Campbell J. McRobbie); (10) "Constructing a Framework for Elementary Science Teaching Using Pedagogical Content Knowledge" (Carla Zembal, Mary Starr, and Joseph Krajcik); (11) "Incorporating Subject Matter Specific Teaching Strategies into Secondary Science Teacher Preparation" (Margaret L. Niess and Janet M. Scholz); and (12) "The TRIAD Approach: A Consensus for Science Teaching and Learning" (Cheryl L. Mason). (YDS)

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